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ABSTRACT

In order to help meet the economic development needs of the state, Oklahoma State University Technical Branch at Okmulgee (OSU Tech) has developed two initiatives. First, OSU Tech has focussed student training on degree programs in advancing technologies, such as avionics, electronics, and robotics. Second, the college has developed a Technology Resource Center (TRC) to help companies test new products, analyze rapidly evolving technologies, and develop their human capital. Currently, four TRC programs are in various stages of development: (1) the External Educational Linkages program, which offers task-specific technical training courses for federally funded job-training agencies and private firms; (2) the Advanced Manufacturing Center, which provides technical assistance and computer training to small manufacturing companies; (3) the Advancing Technology Product Development program, which is promoting faculty collaboration with private companies; and (4) the Oklahoma Rural Economic Renewal Project, which will be a community-based economic development process rooted in traditional values. As the economy becomes increasingly dependent upon technology, schools such as OSU Tech must be able to produce graduates who can advance product research, cost-effectively manufacture advanced products, and infuse the workplace with technological expertise. (JMC)

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DEVELOPING A TECHNOLOGY RESOURCE CENTER:

THE OSU TECH EXPERIENCE

S. Michael Hensley

March 15, 1989

Paper presented at the American Technical Education Association's
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Developing A Technology Resource Center

The OSU Tech Experience

Today, throughout our country, communities are working hard to renew their economies. Over thirty state-level, economic development commissions have concluded their work. One broad-based theme can be found in every report ... **knowledge is now a vital strategic resource and has become as important as capital, natural resources, or physical investments.**

American leaders recognize our workforce must become substantially more productive if we are to become an effective international competitor. They have acknowledged that quality, innovation, creativity, and flexibility are desirable qualities. The time has come, these leaders say, for: 1) creating desirable jobs by accelerating economic growth, 2) developing advanced technology based industries; 3) improving the workforce's basic education; 4) increasing graduates' technical competency; 5) creating links between private sector companies and public education.

The Oklahoma State University Technical Branch - Okmulgee has developed two initiatives to meet these challenges. First, today, OSU Tech's student training is focussed on advancing technology associate degree programs like avionics, electronics, advanced manufacturing, robotics, computer assisted drafting, waste management, and visual communications. Additionally, as they are preparing graduates for the future, these programs are emphasizing the importance of initiative, creativity, and personal accountability. Our classrooms are places where new ideas and questions are encouraged. Our graduates have formidable tasks ahead... hopefully, our programs are training formidable people.

Technology Resource Center

Secondly, OSU Tech has developed a unique vehicle -- the Technology Resource Center -- for meeting the unique challenges found in today's educational arena. The TRC's programs help companies test new products,

analyze rapidly evolving technologies, and develop their human capital. Currently, five TRC programs have been developed.

External Educational Linkages

Tech's **External Educational Linkages** program offers provides high quality, task-specific technical training courses for federally funded job training agencies and private sector companies. These courses help workers update skills in a short time period. Since 1986, the TRC has taught over 100 technical training classes for 43 companies including Merck, Rheem, Purolator, Atlantic Richfield, Conoco, Amoco, Nissan, Toyota, Ford, General Motors, Public Service Company of Oklahoma, and Oklahoma Natural Gas. Generally, these companies identify a specific training deficiency through a needs assessment process. OSU Tech develops a short course which, hopefully, eliminates that deficiency.

Tech's external educational linkages program also trains unemployed or underemployed Oklahomans by conducting entry level occupational skills training programs for federally funded job training agencies. In this fiscal year, over 300 Oklahomans from thirty-four Oklahoma counties have completed one of the TRC's entry-level technical training programs. These six-week, 240 contact hour programs include: heavy equipment maintenance, industrial maintenance, outboard motor repair, vending machine repair, wastewater treatment, business computer skills, residential plumbing, shoe repair, and automotive servicing.

Tech's contract with each agency is "performance based". Tech's training specialist's must place the course graduate in unsubsidized employment to be paid in full. Since the TRC operation is financially self sustaining, this is somewhat daring. OSU Tech does provide career development instruction, placement assistance, and a job club with each course.

Advanced Manufacturing Center

A second TRC program, Tech's **Advanced Manufacturing Center**, concentrates on increasing Oklahoma's manufacturing productivity by

providing advanced manufacturing assistance to smaller manufacturing companies. This center assists manufacturing firms in three ways: 1) developing computer integrated solutions to manufacturing problems; 2) testing advanced manufacturing technology applications; and 3) training manufacturing firms in advanced software applications.

The Advanced Manufacturing Center is located in the Noble Center For Advancing Technology and was funded through legislative appropriations, foundation grants, and industry donations. The OSU Tech manufacturing center is rapidly becoming a professional education center where small manufacturers learn how advancing technology can cost-effectively obtain unbiased, practical solutions to their real-life problems.

In 1986, OSU Tech was a charter member of the Alliance for Manufacturing Productivity (AMP). In 1988, OSU Tech was selected by Governor Henry Bellmon as Oklahoma's representative in the Consortium For Manufacturing Competitiveness. Both alliances recognize technical colleges can play a major role in stopping the loss of our national manufacturing wealth by providing advancing technology training programs for small manufacturing companies.

During 1989, the TRC hired a full-time manufacturing engineer to work in the AMC. This person provides direct technical assistance to small manufacturing companies, organizes a workshop series, and networks with potential business colleagues. Additionally, Tech's business counseling program can help smaller manufacturing clients by writing business plans, locating financing sources, and developing training programs. Technical assistance may also be provided AMC clients by OSU Tech's manufacturing instructors.

Advancing Technology Product Development

Tech's **Advancing Technology Development** program is slowly increasing the faculty collaboration with private sector companies who are developing advancing technology based concepts into commercially feasible applications. During the past two years, OSU Tech has been: 1) developing an institutional policy regarding faculty participation during private sector sponsored advancing technology product development projects; 2) establishing criteria for

selecting advancing technology product development projects; 3) promoting the advancing technology product development project. As appropriate advancing technology product development clients are identified, senior instructors will be able to put years of experience to work as they direct each product's development, production, and quality testing.

While progress has been slow in this program, OSU Tech feels this project's progress is closely linked with the institution's business incubator. As growth occurs in OSU Tech's business incubator, more technology development opportunities will be available.

Oklahoma Rural Economic Renewal

The **Oklahoma Rural Economic Renewal** project is will be started during the upcoming fiscal year. This project is a community based economic development process deeply rooted in traditional values such as hard work, self-reliance, and neighborly cooperation.

The ORER project will provide communities with sensible information, useful development tools, practical workshops, and a step-by-step process which reduces economic development to a series of manageable tasks. The ORER model emphasizes using local resources which are more easily developed, more malleable, and yield more predictable results. During this process, citizens use workbooks developed by the Rocky Mountain Institute and OSU Tech to assess their special situation and develop specific project, program, and enterprise action plans. The Oklahoma State University Cooperative Extension Service's information dissemination infrastructure will be used extensively to provide rural communities access to OSU Tech's economic development expertise. Recently, funding was obtained for this project from Oklahoma's Department Of Commerce and Department Of Corrections.

Conclusion

Oklahoma's technical education institutions have a crucial 21st century role. As we develop a technology-based economy, schools such as OSU Tech must produce able graduates who can: 1) advance product research; 2) cost-

effectively manufacture advanced products; and 3) develop our technology expertise. Future graduates must be enlightened people who are more entrepreneurial, more creative, more flexible, and more internationally minded.

We must retrain Oklahoma's work force so that all Oklahomans can remain productive and employed. OSU Tech's Technology Resource Center is an ideal vehicle for providing quality solutions to the complex problems our economy faces in today's rapidly changing global environment.